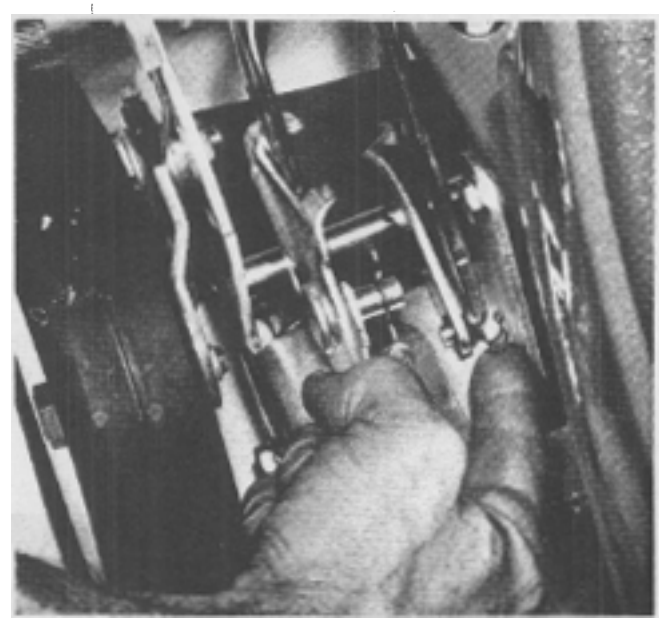
SCAMP MODELS SELF-PROPELLED SERVICING AND ADJUSTMENTS

All Lawn Boy Compliant Scamp Model Mowers feature a Flywheel Brake system. It will stop the blade from turning within 3 seconds after the operator releases the bail. The engine also stops at the same time.

Adjustments and servicing of the Scamp self-propelled mowers are very different from all previous models of self-propelled mowers.

⚠ **SAFETY WARNING: Before any adjustments or repairs are attempted, disconnect and remove spark plug to prevent starting.**

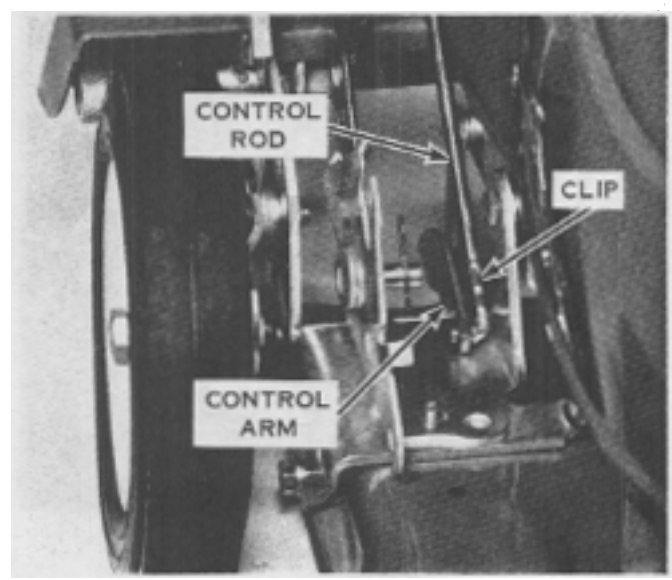


INSTALLING CONTROL ROD

1. Place retainer clip on clutch arm with long side of clip on the inside of clutch arm.

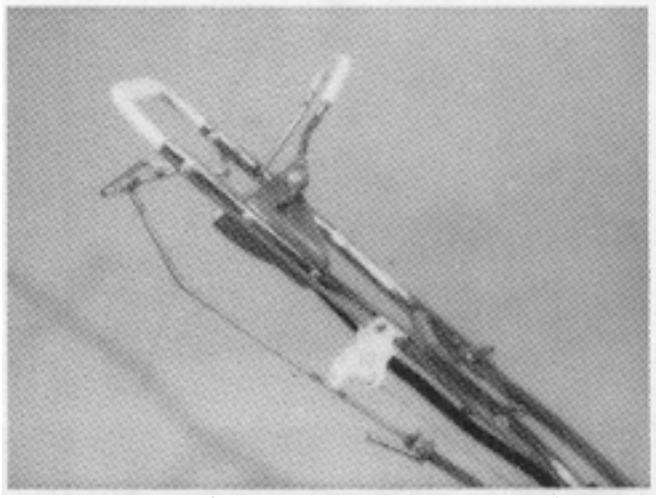
2. Align hole in clip with hole in arm and assemble lower end of the control rod in hole.

3. Turn (swivel) long end of clip up and snap into position on lower control rod as shown.

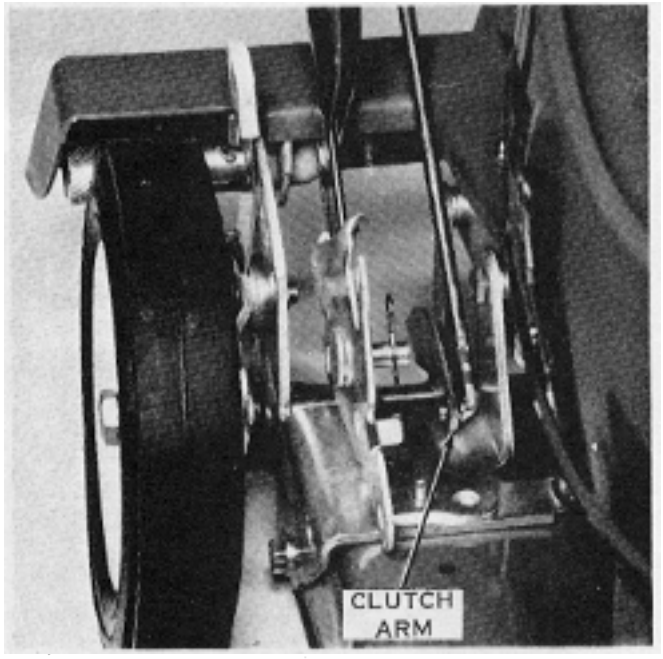


⚠ **SAFETY WARNING: The lower self-propel control rod must be assembled to clutch arm as shown. If not the self-propel mechanism will not return to neutral when the control lever is released from the engaged position.**

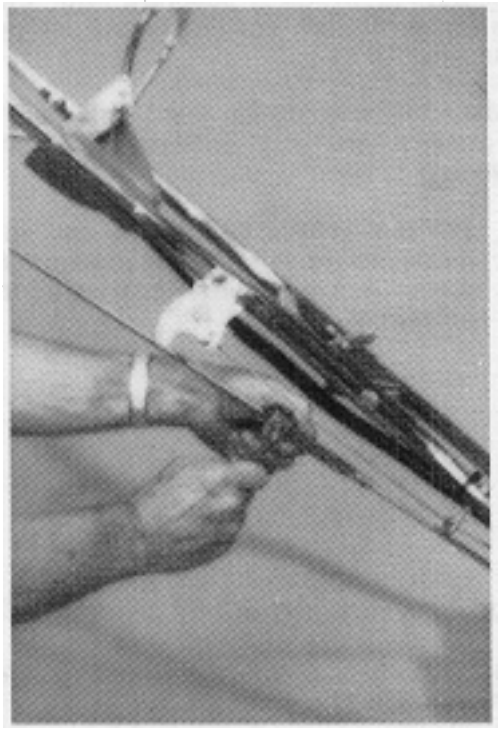
4. With the control handle in "neutral" (free) position as shown.



5. With the clutch arm resting on the handle and wheel bracket as shown.



6. Secure upper and lower control rods together with the clamp screw as shown. This screw should be tightened securely by hand.

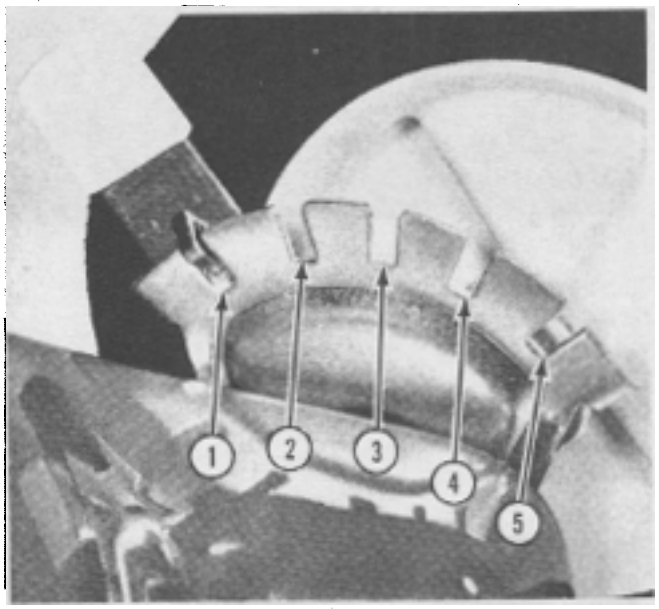


SAFETY WARNING: Improper tightening of clamp screw on control rod may result in operator loss of drive control mechanism.

NOTE: To put mower in motion, pull upward on control handle and hold in drive position. To stop forward motion of mower, release control handle. Mower drive mechanism functions only when the control handle is held in "DRIVE" position.

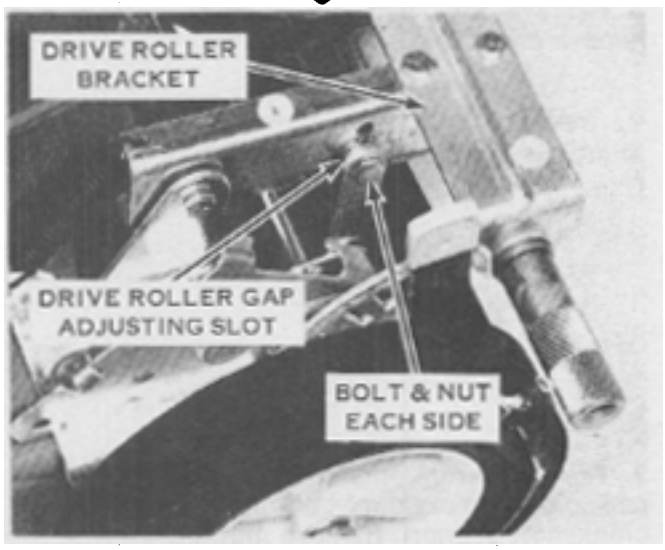
DRIVE ROLLER ADJUSTMENT

1. With the control handle in "Neutral", place both rear wheel height adjusters in #1 (lowest) cutting position as shown. A gap of 3/16" should appear between the drive rollers and tires.



2. Loosen bolt and nut located in drive roller gap adjusting slot on each side of drive roller bracket.

3. Move the drive roller bracket up or down to obtain the necessary 3/16" drive roller gap. Hold bracket in position and tighten both bolts and nuts securely.



SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

V BELT REMOVAL OR REPLACEMENT

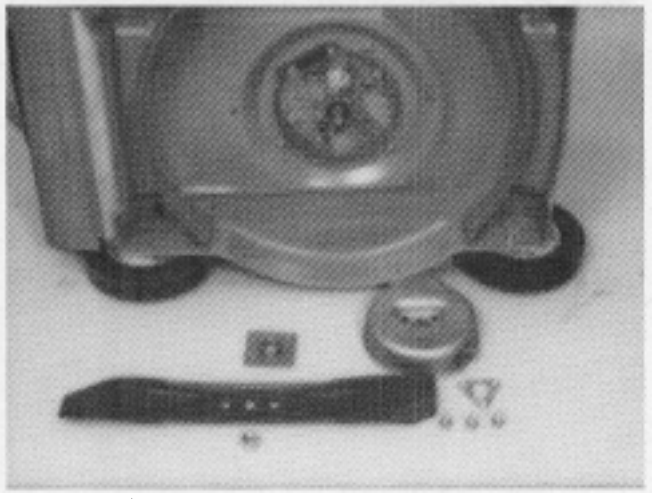
SAFETY WARNING: To prevent starting engine, disconnect spark plug lead and remove spark plug.

The "V" belt used on the utility self-propelled model mowers is a SPECIAL BELT. **DO NOT USE A SUBSTITUTE.** It won't work as WELL or as LONG.

To remove the belt:

1. Remove four belt guard cover screws and remove cover.

2. Turn mower up on side and remove nut, blade and collar. Remove three bolts securing muffler and crankshaft support. Remove muffler.



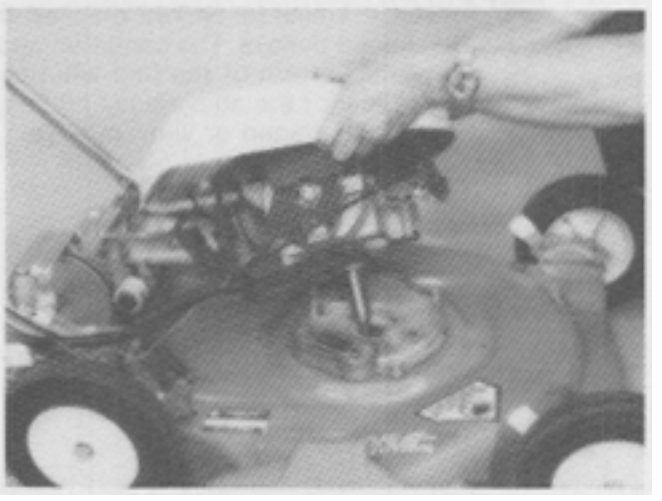
SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

⚠ **SAFETY WARNING: To prevent starting of engine, disconnect and remove spark plug prior to removing the engine.**

3. Remove three bolts securing engine to muffler plate and remove engine.

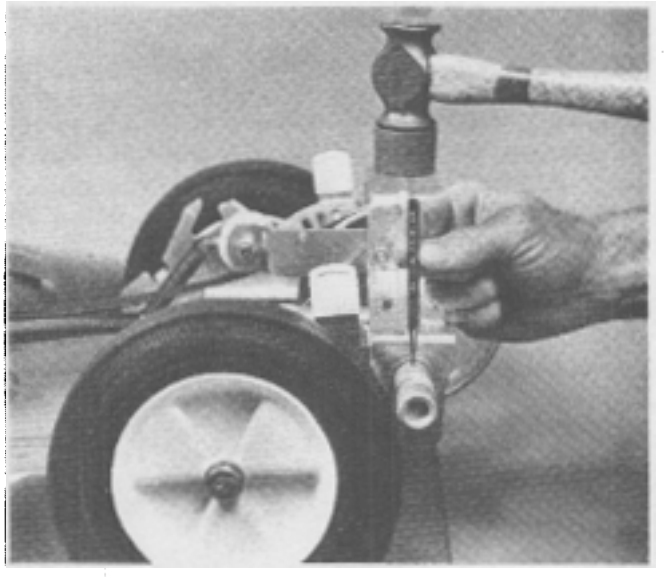
NOTE: Do not remove muffler plate from housing when removing engine.

4. Remove engine and remove drive belt from drive pulley.

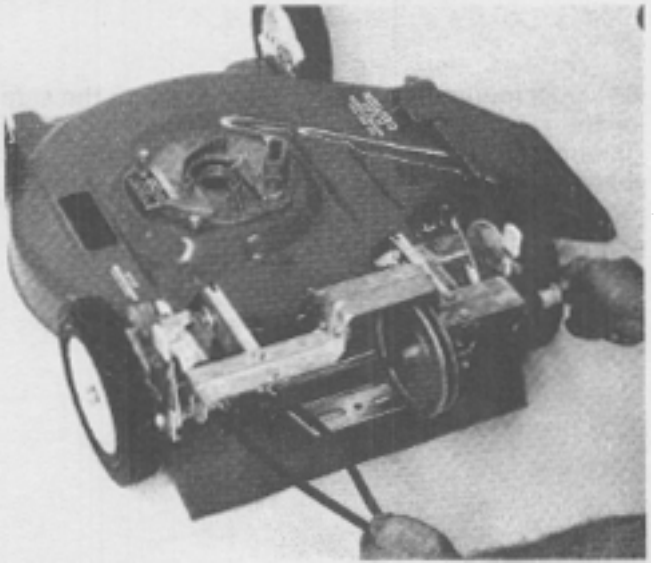


⚠ **SAFETY WARNING: Do not operate mower with belt guard removed.**

5. Remove roll pin from left hand drive roller and remove roller.

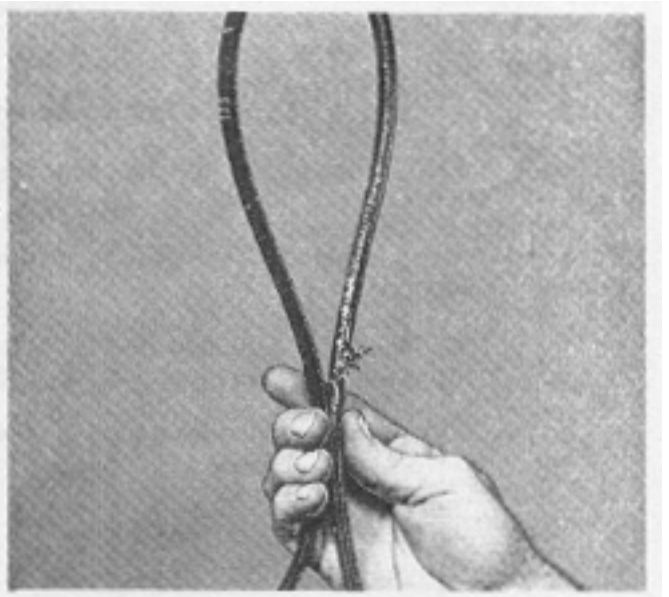


6. Remove belt from driven pulley and slide shaft assembly to the right. Remove belt from mower as shown.



SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

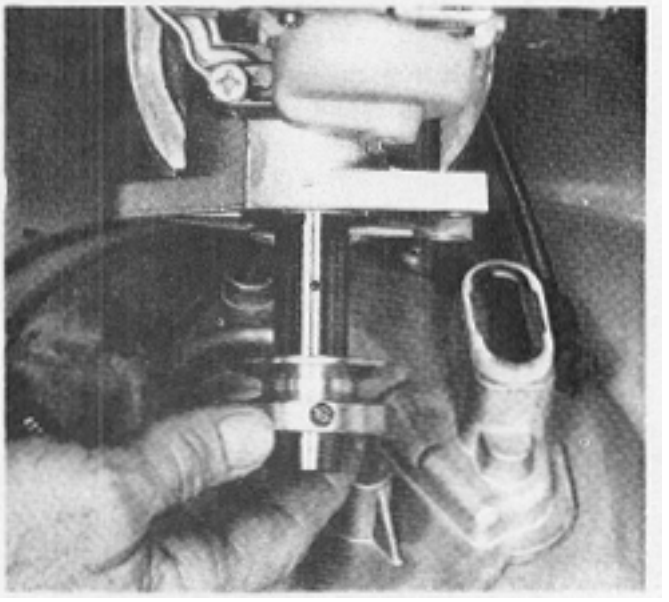
NOTE: After the belt has been removed, examine for broken, cracked or misaligned pulleys. The condition and the wear pattern of the belt will provide clues for the above possibilities. Replace damaged or worn pulleys.



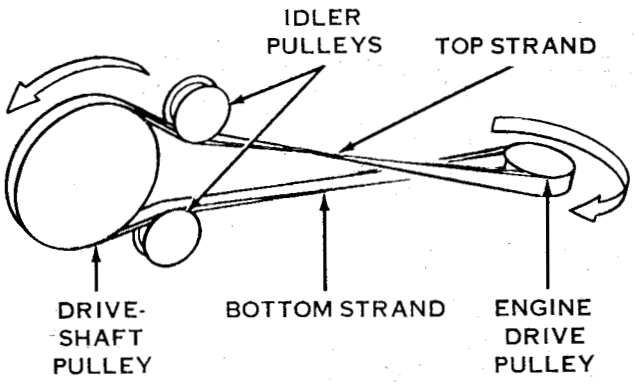
7. The crankshaft pulley (drive pulley) is secured to the crankshaft with a SPECIAL slotted set screw. The end of this screw locates in a hole in the crankshaft. The correct position and tightness is very IMPORTANT. If not tightened securely, damage to the pulley, crankshaft and premature wear of the drive belt will result.

NOTE: Apply OMC Ultra-Lock Part No. 388517 to threads of set screw prior to installation.

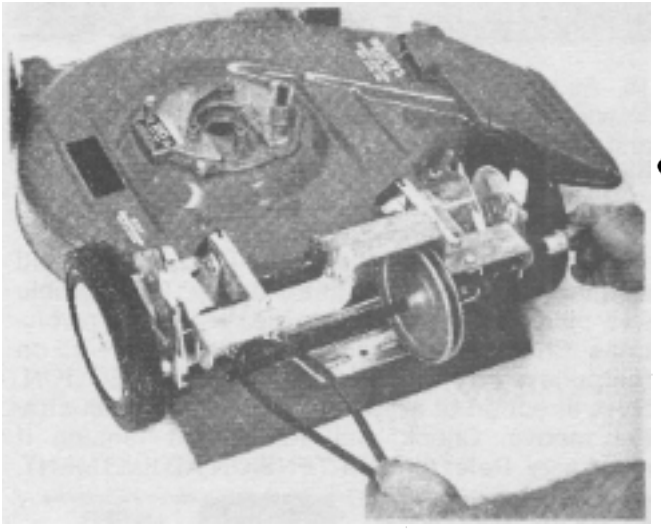
8. When reinstalling pulley to crankshaft, the side of the pulley with set screw is the lower side. If assembled upside down (set screw on top) misalignment and interference of pulley operation will result. Always check pulley for damage. Replace if necessary.



SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING



INSTALL BELT AS SHOWN FOR PROPER PULLEY ROTATION



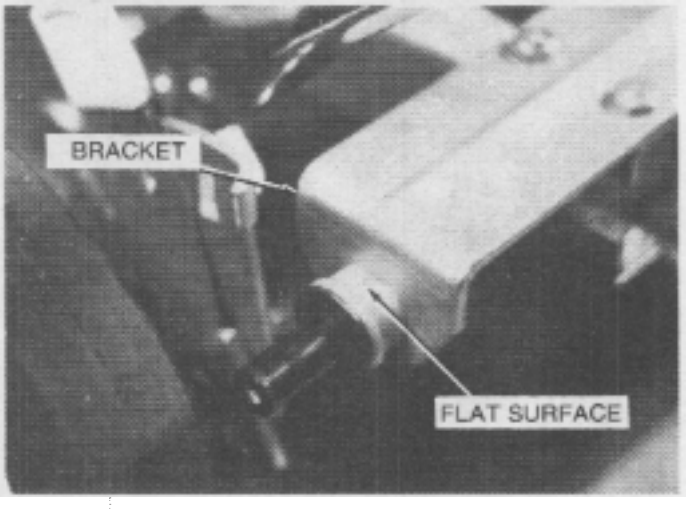
⚠ SAFETY WARNING

SAFETY WARNING: Incorrect drive belt installation may allow mower to operate in reverse direction causing injury to the operator or bystanders. Assemble drive belt as shown.

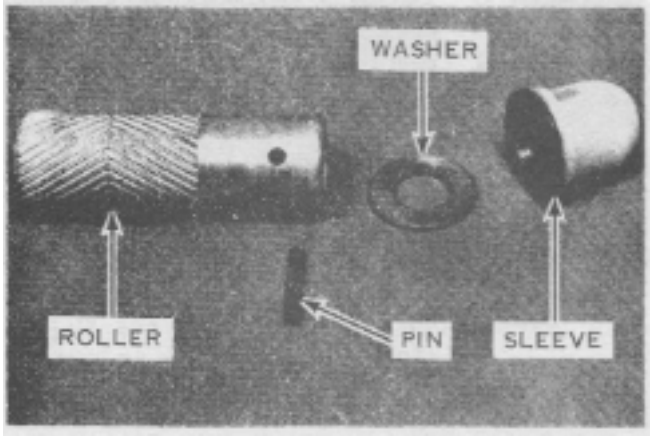
9. Place belt over left end of drive shaft as shown. Do not assemble on drive shaft pulley.

10. BUSHING AND BEARING INSTALLATIONS.

NOTE: The sleeve has a flat surface that matches the flat surface of the bracket. When reassembling, the flat surfaces must match.



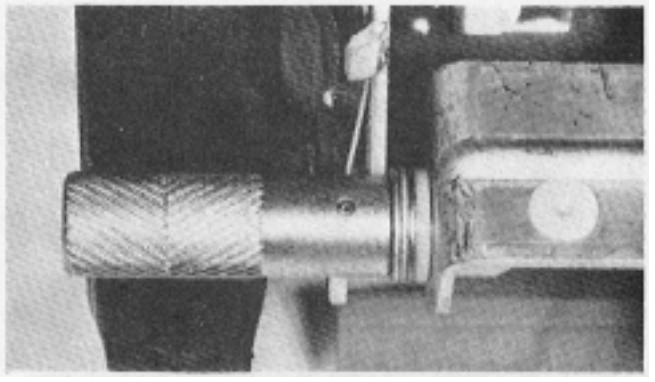
11. Check the condition of the drive shaft, bronze bearings, and sleeve. If signs of damage or wear appear, replace them.



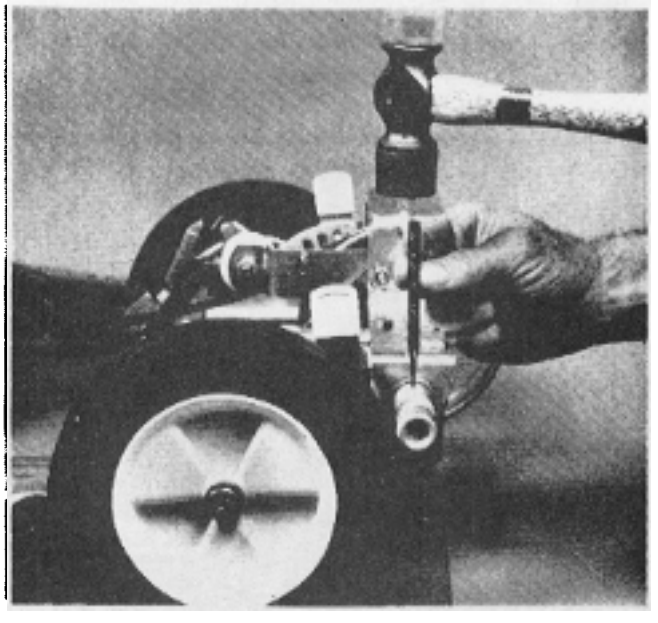
SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

12. Reassemble the drive shaft into the bearing and slide it to the left as far as possible. Assemble the washer and drive roller on the drive shaft.

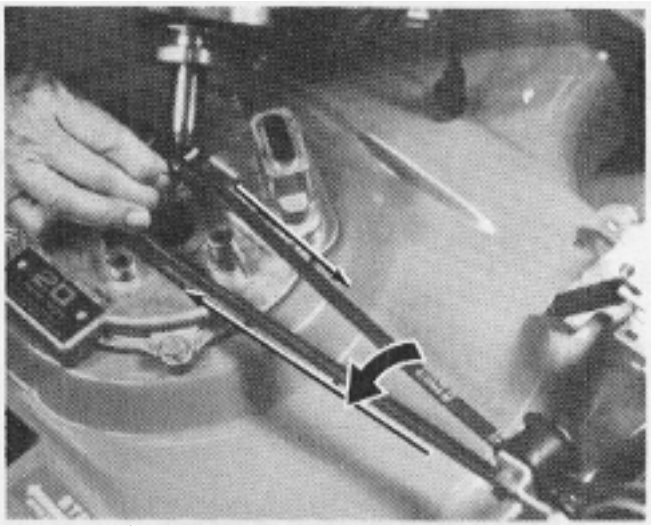
13. The drive rollers must be properly installed to utilize the self-cleaning feature. Proper installation is with the vee pointing toward the wheel.



14. Using a new roll pin, assemble the drive roller to the drive shaft. Use a 5/32" or larger drift punch, drive the roll pin into place, flush with the outer surface. Neither end should protrude beyond the roller surface.

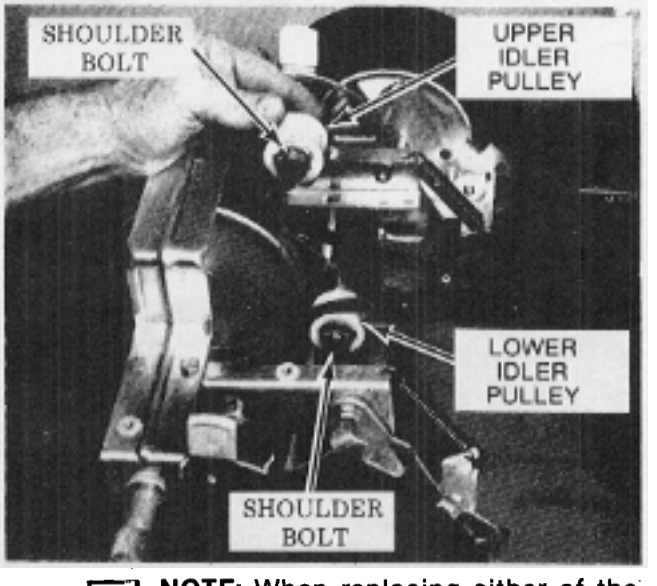


INSTALL BELT AS SHOWN
FOR PROPER PULLEY ROTATION



15. As you face the front of the mower, twist the forward end of the belt 1/4 turn counter clockwise and assemble on the engine drive pulley. Assemble engine on muffler plate and secure with three bolts.

16. Release spring tension on idler pulleys and assemble belt on drive shaft pulley. Reassemble idler pulley spring and rotate the belt several revolutions. Check to make sure the belt is centered on the pulleys and TURNING IN RIGHT DIRECTION. Note direction of arrow on large pulley in illustration above. Check and adjust belt tension if necessary. Refer to BELT TENSION ADJUSTMENT.

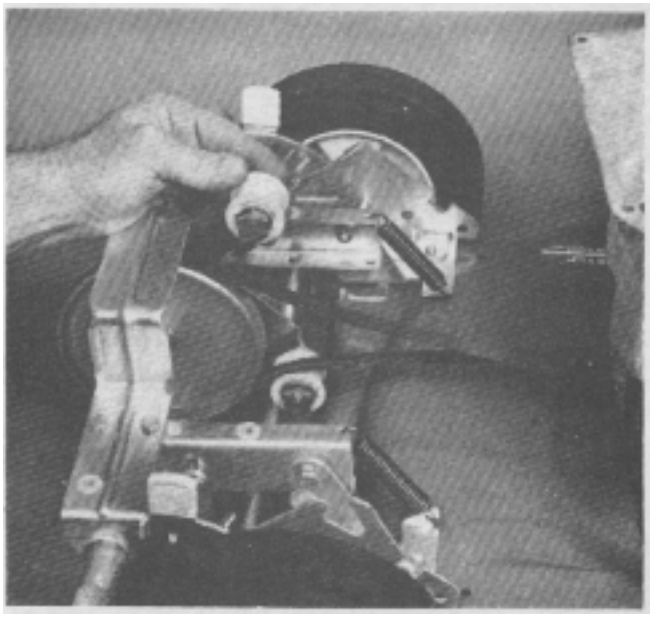


NOTE: When replacing either of the belt idler assemblies, use idler kit part no. 682374 for the top and kit part no. 682564 on the bottom.

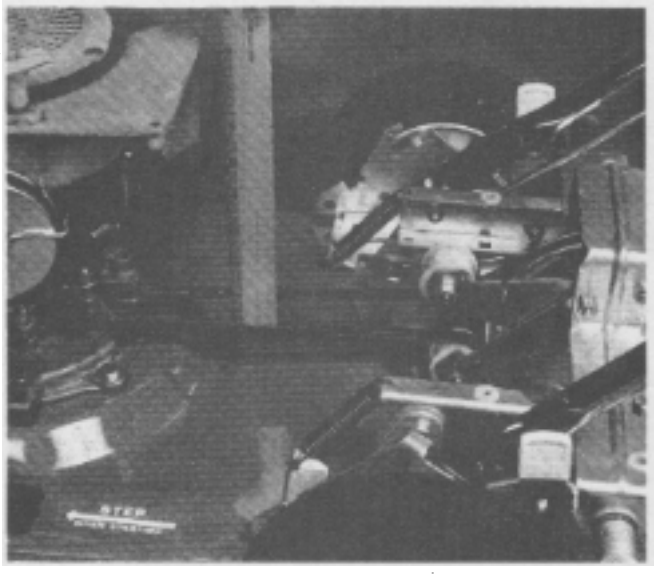
SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

BELT TENSION ADJUSTMENT

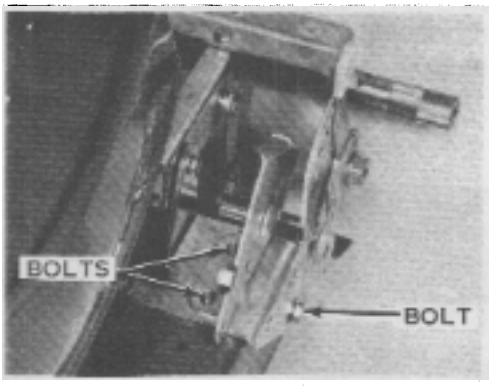
1. Check drive belt installation. Drive belt must be installed between idler pulleys as shown.



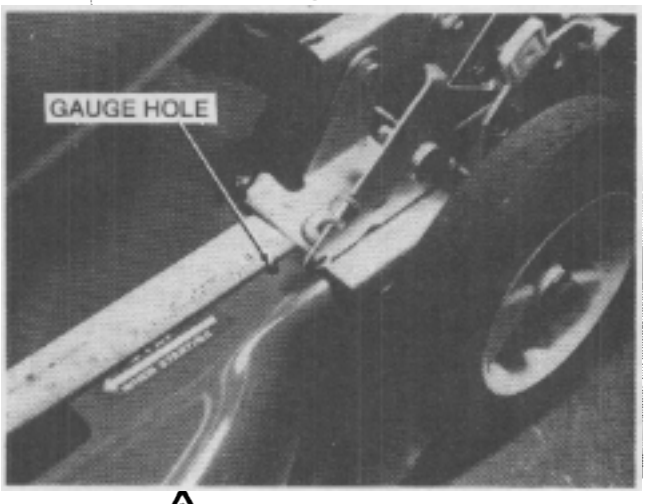
2. Drive belt should be checked to insure that proper tension exists in order to prevent premature belt failure. Lift floating idler from the upper strand of "V" belt. Belt will then become loose. Set floating idler onto "V" belt and check clearance between the two strands of the "V" belt. The distance between the two strands should not be less than 1/2" as shown.



3. To adjust belt tension; loosen four handle bracket mounting screws (two on each bracket) and two screws (one on each side) located on the sides of rear height adjuster bracket as shown. Slide entire self-propelling mechanism in direction necessary to obtain the proper "V" belt tension.



4. Care should be taken to insure that both sides of the self-propelling mechanism are positioned equally on the mower housing. This can be accomplished by measuring the distance from the front edge on the height adjuster brackets to the 1/4" diameter gage holes located directly in front of these brackets as shown. This distance must be the same for both sides. Before tightening screws make sure the distance between the strands of the "V" belt is not less than 1/2". Tighten the four handle bracket screws and the two side screws securely. Reassemble belt guard to self-propel mechanism using screws previously removed.



⚠ SAFETY WARNING

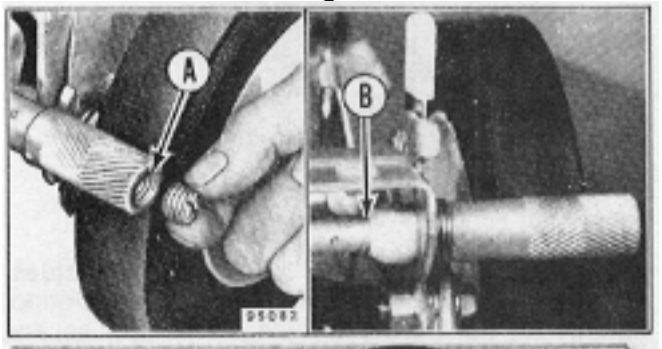
SAFETY WARNING: Do not operate mower with belt guard removed.

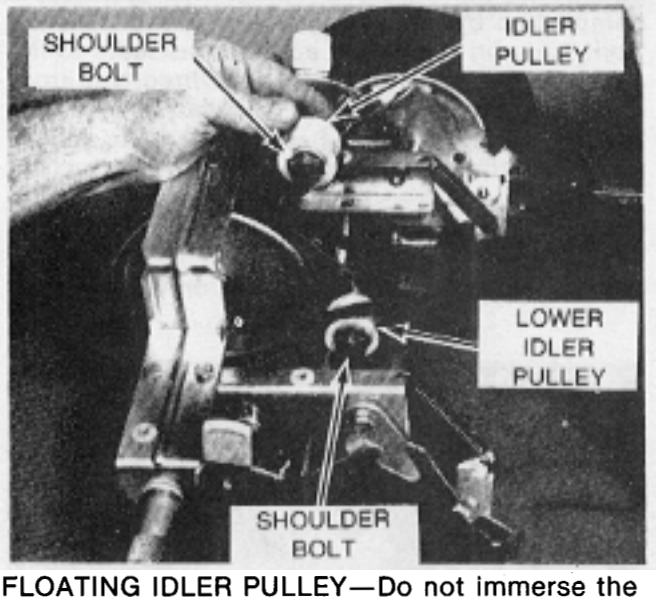
SCAMP MODELS
SELF-PROPELLED DRIVE BELT REPLACEMENT AND SERVICING

LUBRICATION

50 HOURS

1. DRIVE ROLLER BEARINGS—Disassemble rotating shaft cover from self-propel mechanism by removing four screws. Unscrew plug from end of each drive roller (Point "A"). Fill exposed cavity with LAWN-BOY "A" GREASE, PART NO. 610726 OR EQUIVALENT. Replace plug and tighten until snug. Repeat procedure until lubricant appears on cross-shaft at Point "B". Reassemble rotating shaft cover to self-propel assembly.

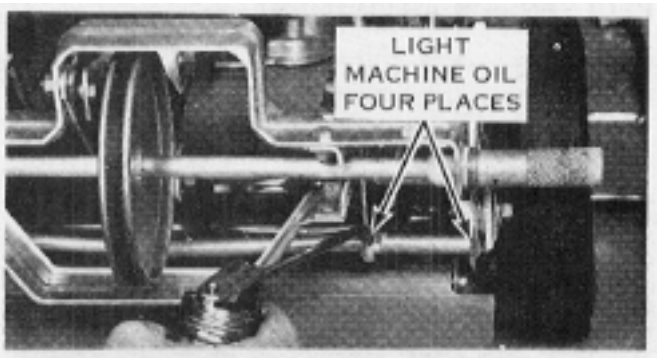


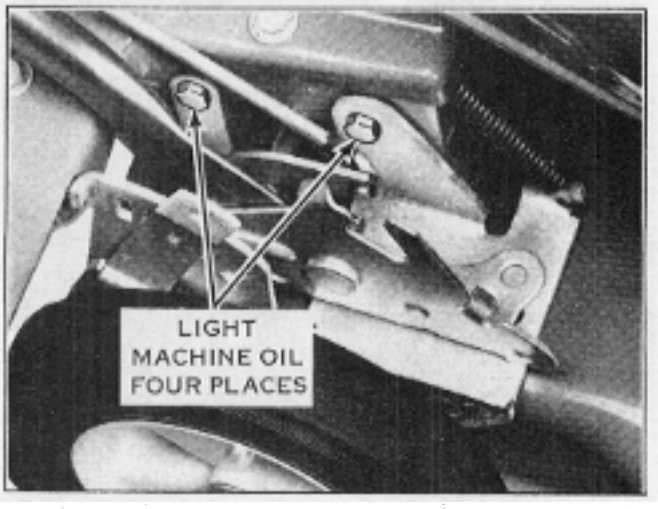


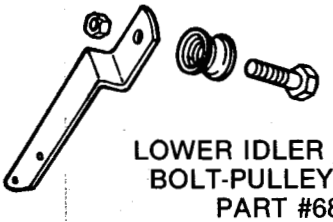
FLOATING IDLER PULLEY—Do not immerse the idler pulley in solvent. Use a rag containing solvent, clean the hole in the idler pulley and the shoulder bolt thoroughly. Using a small amount of LAWN-BOY "A" GREASE or EQUIVALENT, relubricate the shoulder bolt and remount idler pulley assembly in the same order it was originally.

AS REQUIRED

1. CLUTCH LINKAGE—Apply several drops of light machine oil on clutch mechanism at all pivoting points.







LOWER IDLER ASSEMBLY
BOLT-PULLEY-ARM-NUT
PART #682564

LOWER IDLER PULLEY—Permanently lubricated. No lubrication required.

To service and repair the flywheel brake system, remove the shroud and tank assembly. (5 phillips screws).

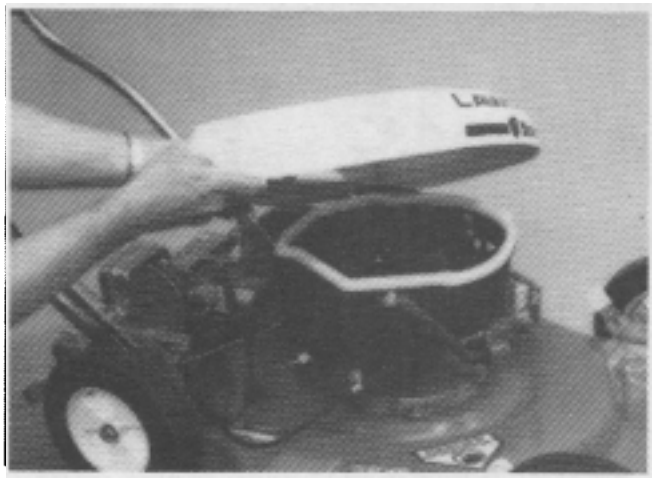


Figure 1

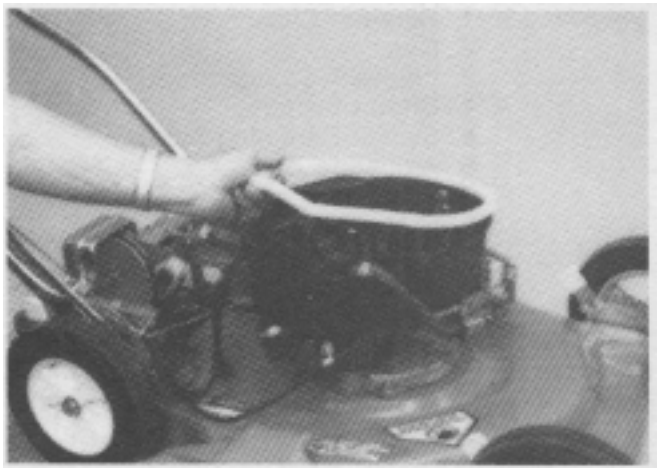


Figure 2

Lift spacer from top of shroud base.

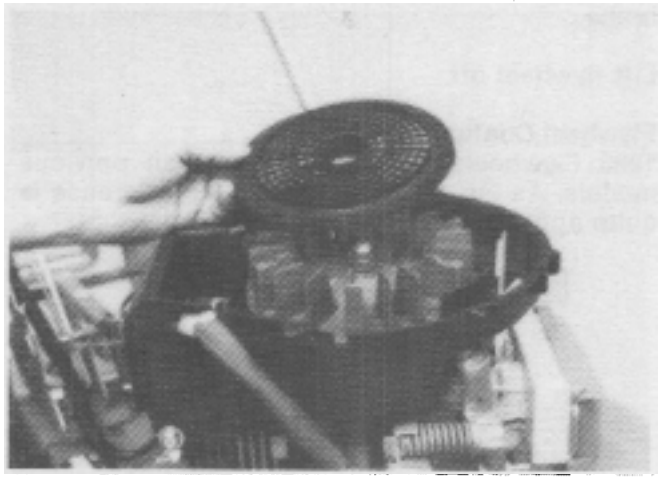


Figure 3

Remove flywheel screen. (3 screws).

Flywheel Removal/Installation
It will be necessary to move the Flywheel Brake Arm away from the flywheel (pull back on control bail) to allow removal or installation of the flywheel.

Figure 4

Remove flywheel nut.

To break flywheel loose use a soft hammer and rap sharply down on one of the thick fins while lifting with other hand on opposite side of flywheel.

NOTE: Do not break any fins on flywheel. It will be unbalanced and vibrate.

Pull bail back against the handle to release the brake.

Lift flywheel off.

Flywheel Configurations
1983 Flywheels are much taller than previous models. As Fig. 5 shows, the visual difference is quite apparent.

NOTE: These new flywheels are not interchangeable with those of previous Lawn-Boy models.

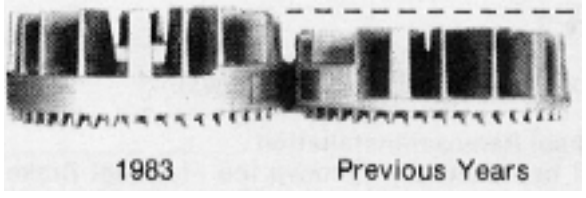


Figure 5 Flywheel Height Comparison

It is important to note that two different materials are used on compliance mower flywheels. Flywheels for all Flywheel Brake models are made of aluminum, but due to the need for additional rotating weight (inertia), the Blade Brake Clutch (BBC) flywheels are made of zinc. The zinc flywheels are plainly marked as such to prevent confusion. Be certain you install only the correct type flywheel for the specific mower.

SAFETY WARNING: Flywheel Brake (Zone and PRS) and Blade Brake Clutch (BBC) flywheels are not interchangeable. The correct type flywheel (aluminum or zinc) is critical to proper CPSC compliance.

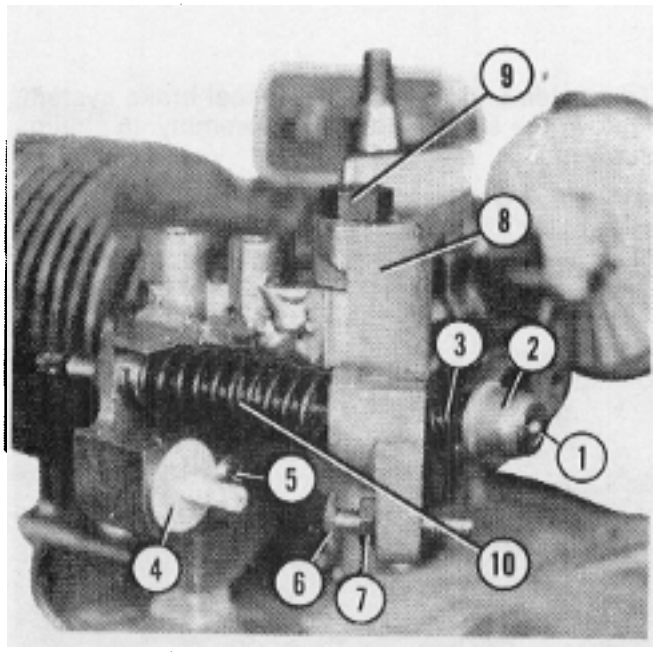
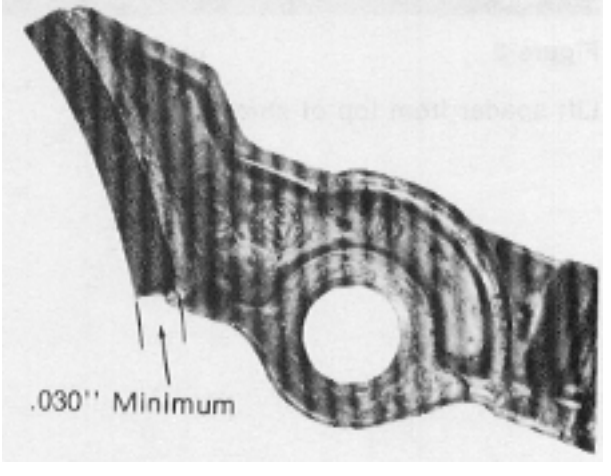


Figure 6 Flywheel Brake System Components

1. Retainer Clip
2. Cup
3. "Pigtail" Spring
4. Circuit Switch
5. Switch Retaining Screw
6. Adjusting Bolt
7. Locknut
8. Brake Arm
9. Brake Arm Bolt
10. Cable Retainer Spring

Brake Pad Wear
Flywheel Brake Arm (with bonded brake pad) must be replaced if pad wears below .030" at any spot.



.030" Minimum

Figure 7 Flywheel Brake Pad Wear

To replace the brake arm, it will be necessary to disconnect the brake cable from the engine.

Set the flywheel back on the engine.

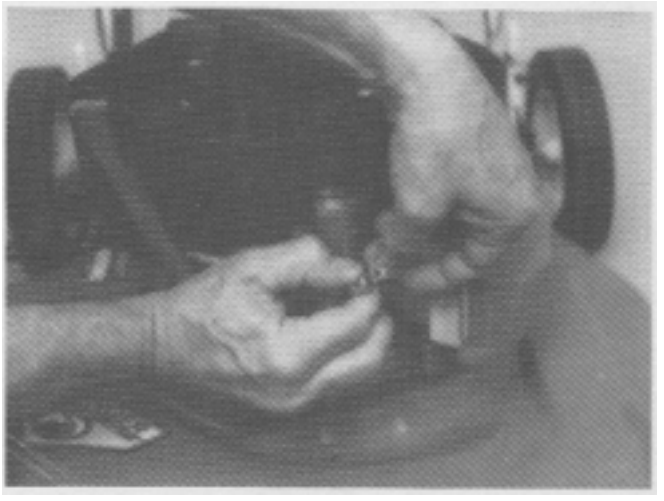


Figure 8

STEP #1
With flywheel in place and the bail control released (out of operating position), compress the "Pigtail" Spring by hand, then remove the Retainer Clip, Cup and Spring.

STEP #2
Remove the cable from the housing.

Remove the flywheel.

STEP #3
Remove circuit switch adjusting bolt and lock nut. (See Fig. 6).

STEP #4
Remove brake arm bolt and brake arm. (See Fig. 6).

STEP #5
Re-assemble circuit switch adjusting bolt and lock nut into the new brake arm. Turn it into bracket until head is against the bracket. (See Fig. 6).

STEP #6
Thoroughly clean the threads of the bolt and apply Lawn-Boy Screw Lock, part number 384848 to the threads.

STEP #7
Assemble the brake arm and bolt onto bracket.

Tighten to 5-7 ft. lbs. (63-75 in. lbs.)

STEP #8
Reassemble the cable retainer spring into the bracket assembly.

STEP #9
It is necessary to check the brake cable adjustment before reinstalling it in the bracket.

Figure 9

STEP #10
To adjust the brake cable, loosen the jam nut and back it off. Place the brake cable adjusting gauge, part number 611703 over the end of the cable. Assemble the retainer clip (see Fig. 9) on the cable against the gauge.

Turn adjusting nut up against the gauge to apply approximately 5 lbs. tension.

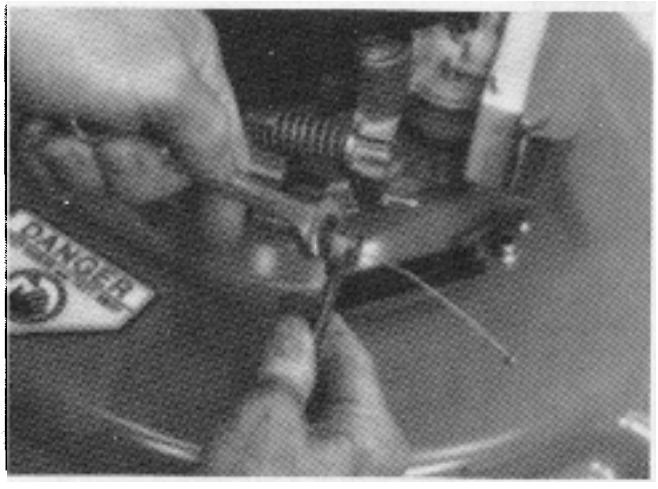


Figure 10

STEP #11
Turn jam nut against the adjusting nut and tighten. Do not permit adjusting nut to turn.

NOTE: Use 2 1/2" open end wrenches. (See Fig. 10).

STEP #12
Set flywheel back on the crankshaft.

STEP #13
Reassemble the Cable into the Brake Bracket, then reassemble the Spring, Cup and Retainer Clip.

After the brake cable is reassembled, it is necessary to check the circuit switch adjustment.

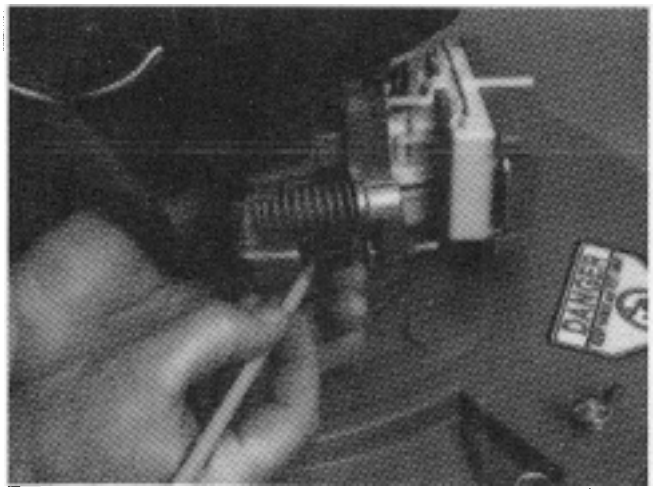


Figure 11

STEP #1
Place the switch adjusting gauge on the plunger.

STEP #2
Place a mark on the plunger at end of gauge. (See Fig. 11).

STEP #3
Remove the gauge.

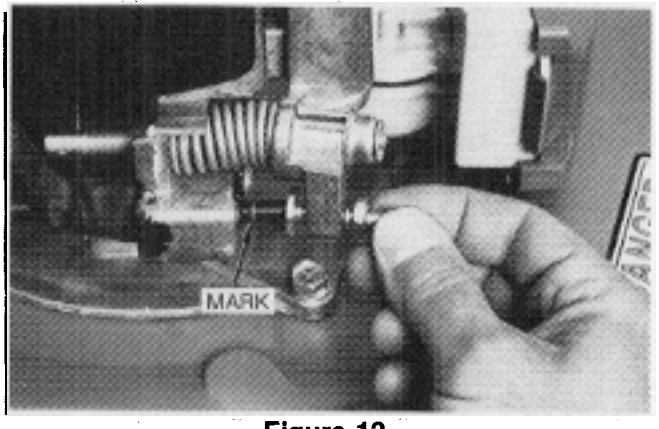


Figure 12

STEP #4
Pull the bail back against the handle and hold it.

STEP #5
Turn adjusting bolt in until mark on plunger is flush with face of switch body.

STEP #6
Tighten lock nut.

NOTE: Be sure adjusting bolt does not turn.

NOTE: Recheck this switch adjustment to prevent the plunger from going in too far and damaging the switch internally. If it does not move in far enough, the engine will not start.

SAFETY WARNING: Proper adjustment of this switch is necessary to insure that blade motion stops within the required time.

NOTE: If proper switch adjustment cannot be made, check brake cable adjustment (See Fig. 9) as this will affect correct switch operation.

SCAMP
IGNITION CIRCUIT SWITCH TESTING AND REPLACEMENT

Trouble shooting the circuit switch.

STEP #1
Disconnect both leads from the C.D. pack.

STEP #2
Connect a continuity meter or light to these leads.

STEP #3
Push the plunger in. The meter should read "0" or the light should go out.

STEP #4
Release the plunger. The meter should indicate a completed circuit or the light will go on.

If the switch is defective, it requires replacement.

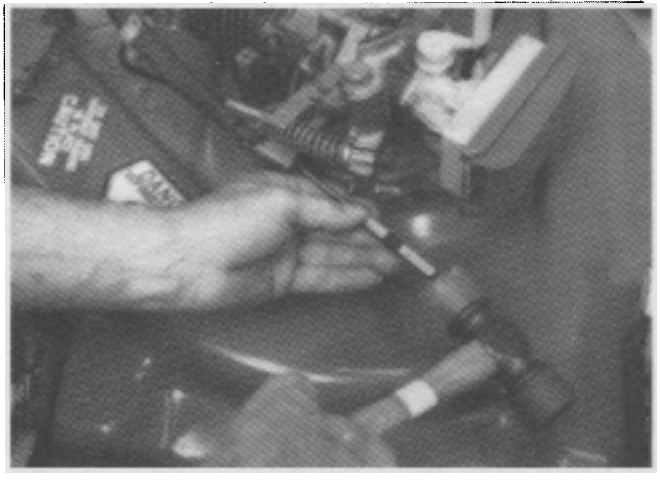


Figure 13

STEP #5
To replace the switch, it will be necessary to remove the flywheel for access to the switch. This permits the brake arm to swing out of the way.

STEP #6
Remove the switch retainer screw. (See Fig. 6).

STEP #7
Using a drift punch and hammer, drive the switch body out of the bracket. (See Fig. 13). This will break the flange on the switch.

STEP #8
Assemble the new switch and lead assembly into the bracket.

STEP #9
Install the switch retainer screw. Reconnect the two leads onto the C.D. pack.

STEP #10
Adjust the switch plunger travel with the gauge, part number 611702. Follow steps 1 thru 6 on page 14.

⚠ **SAFETY WARNING: Proper adjustment of this switch is necessary to insure that blade motion stops within the required time.**

SCAMP
BLADE AND BLADE HOUSING

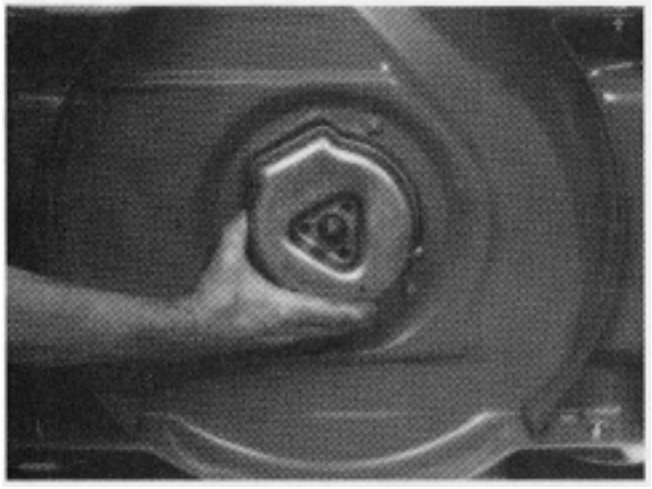


Figure 1

Assemble muffler onto crankshaft.

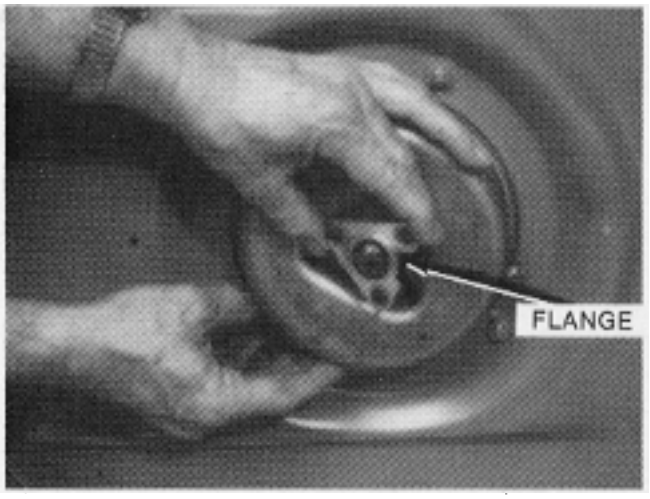


Figure 2

Always assemble the crankshaft support with the flange down towards the blade.

Figure 3

A special tool. crankshaft support gauge, part number 609968 is required to position the support correctly so it doesn't contact the crankshaft.

Slide the gauge onto crankshaft with the thin wall of gauge inside of support.

Figure 4

Clean threads on muffler bolts thoroughly and apply Ultra-Lock, part number 388517. Install bolts and tighten to 150-190 inch pounds.

The Blade and Hardware shown below are used on all Lawn-Boy Scamp models.

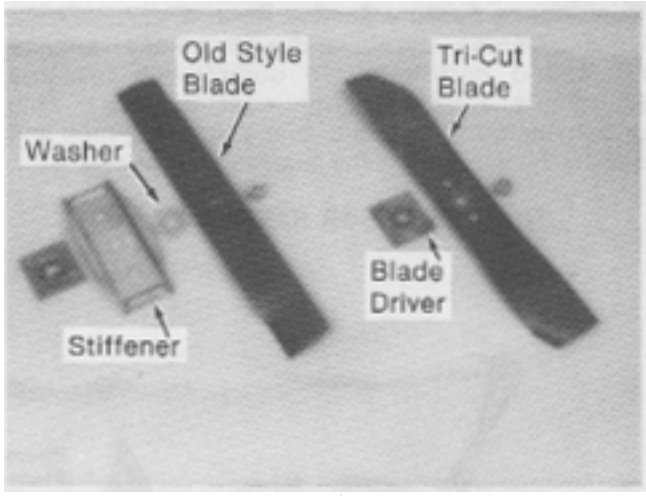


Figure 5

Torque blade nut to 45-50 ft. lbs.

NOTE: This Blade and Hardware will fit all previous Lawn-Boy mowers, using only the Blade Driver and Blade Nut (as shown in Fig. 5). Do not use the old blade stiffener or washer with these new blades.

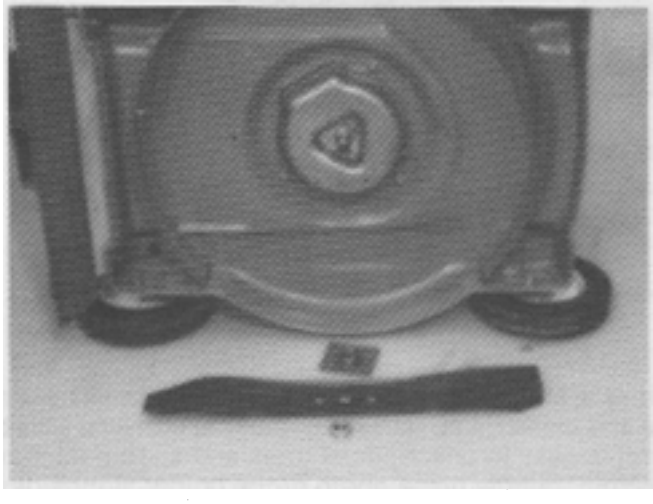


Figure 6

Before assembling collar on crankshaft, check to be sure it did not get bent or distorted when being removed. If so, replace it. Do not use, because, it will cause vibration.

If the blade nut is to be re-used, clean the threads thoroughly. Also clean threads on crankshaft.

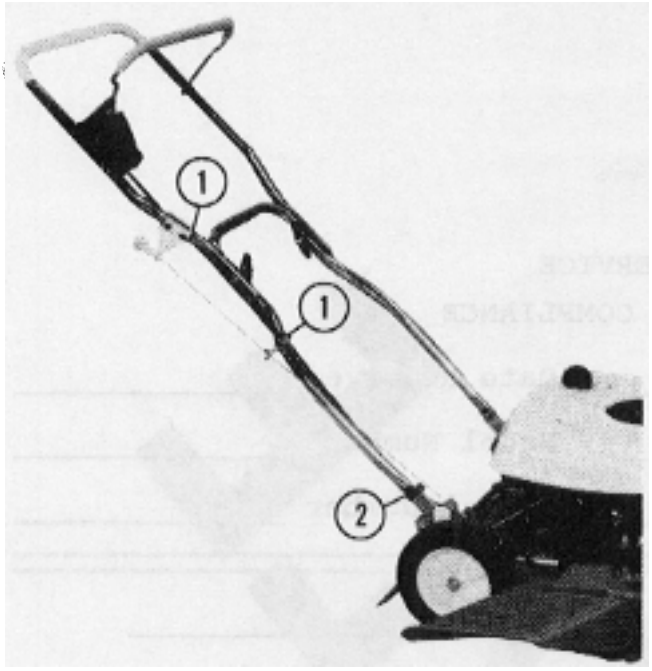
Apply OMC Ultra-Lock, part number 388517 on the threads. Torque blade nut to 45-50 foot pounds.

NOTE: After repairs are completed always test the mower for starting, running and blade stoppage time.

The required blade stopping time is 3 seconds or less.

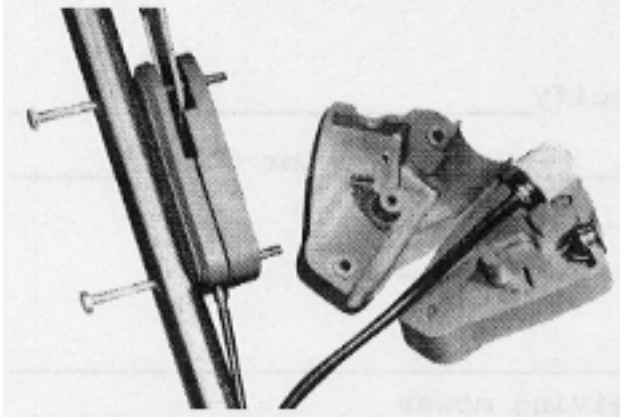
It is recommended to make 3 tests for blade stopping time and record each for future reference.

If it doesn't stop in the required length of time, determine what the problem is and correct it.

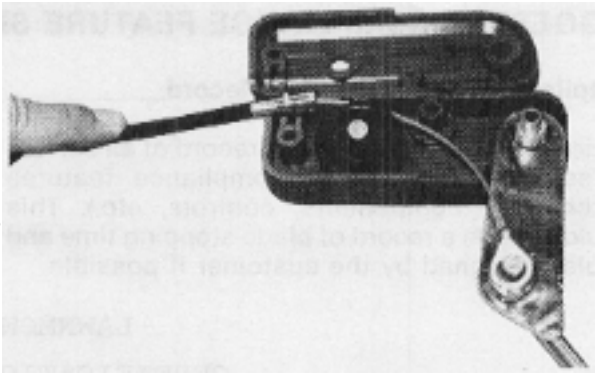


Tie Wrap Locations
1. Single Tie
2. Double Tie

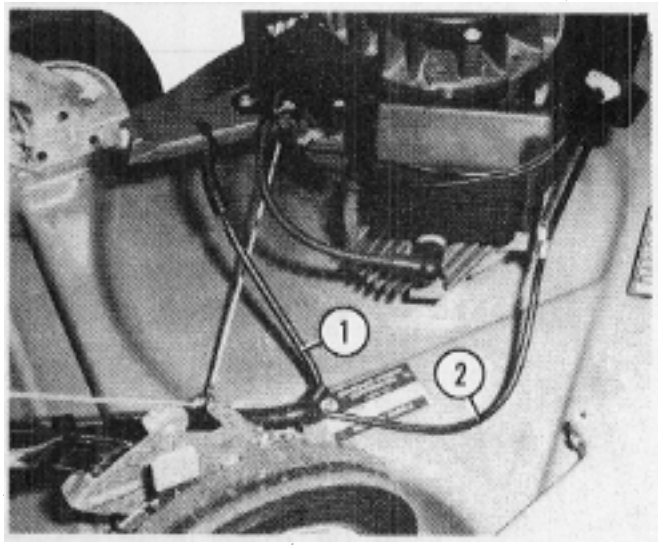
Retainer Cup Removal

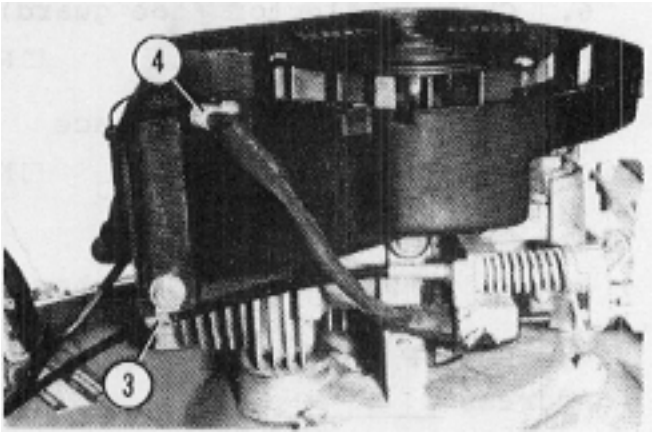


Primer Assembly



Brake Cable Routing (console)

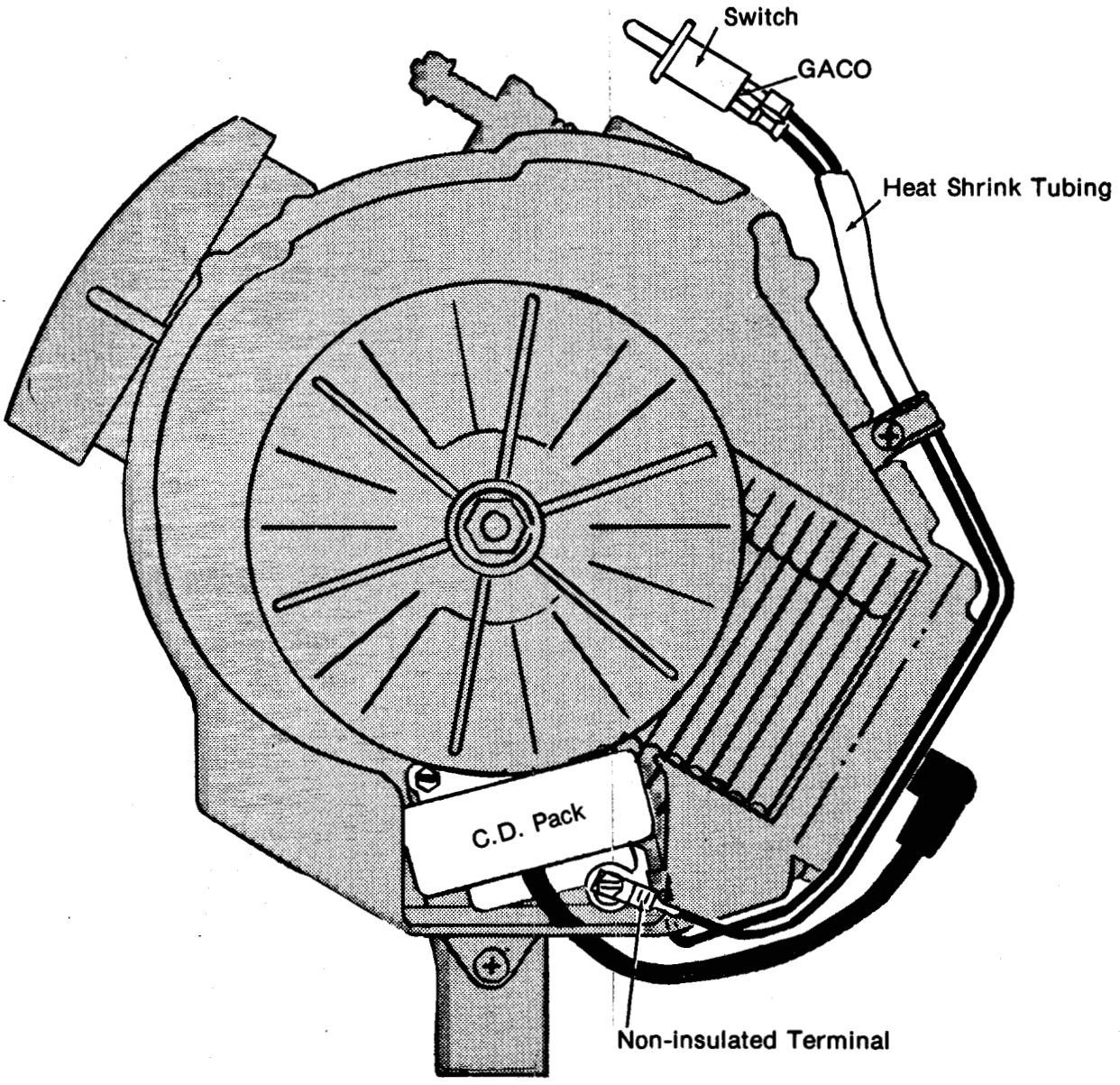




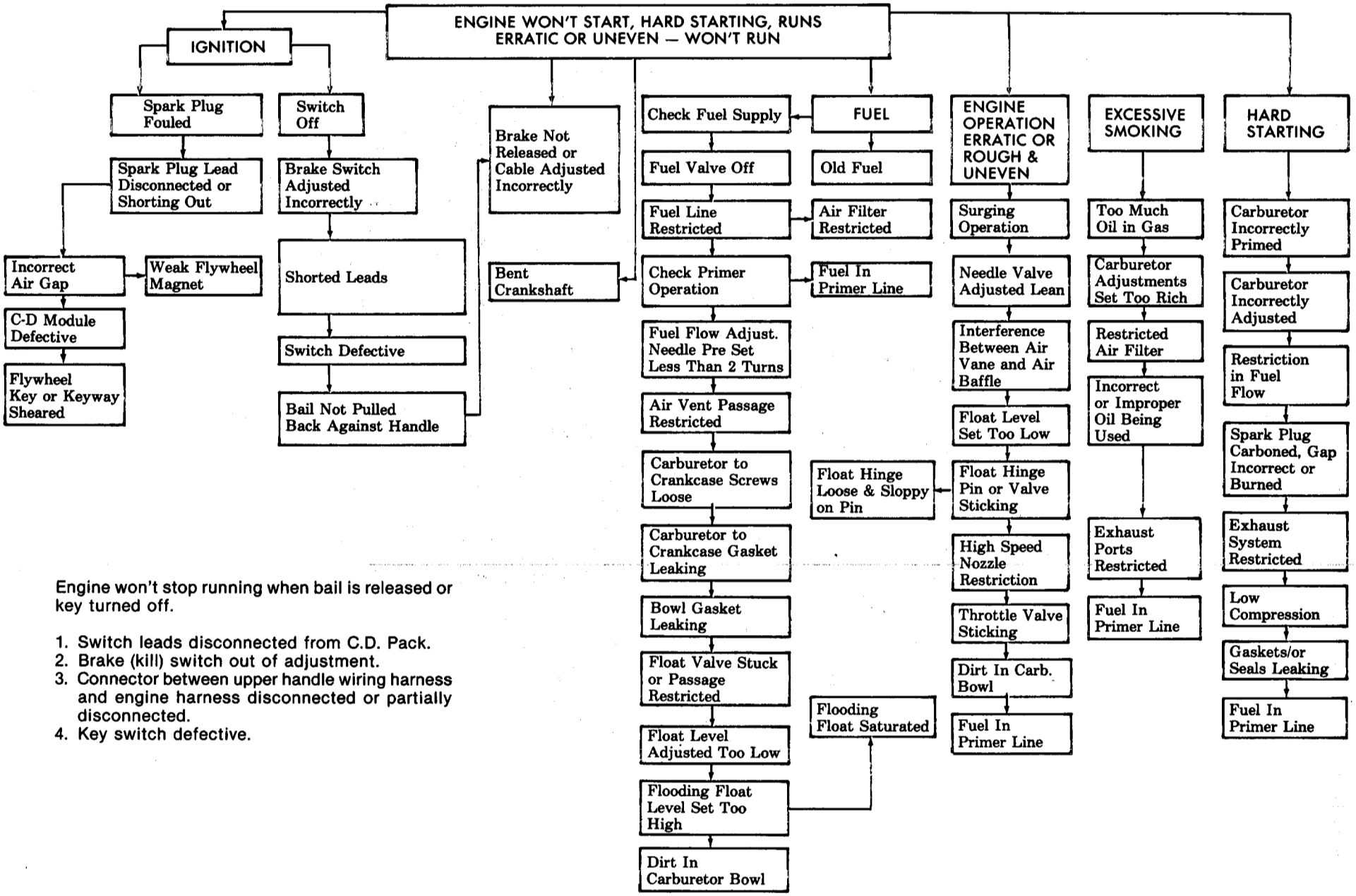
Hose and Cable Routing

1. Primer Hose
2. Brake Cable
3. Brake Cable Retainer Clamp
4. Switch Cable Clamp

Zone (manual) Start



LAWN-BOY COMPLIANT MOWER TROUBLE SHOOTING CHECK CHART



Engine won't stop running when bail is released or key turned off.

1. Switch leads disconnected from C.D. Pack.
2. Brake (kill) switch out of adjustment.
3. Connector between upper handle wiring harness and engine harness disconnected or partially disconnected.
4. Key switch defective.

Engine Won't Start or Hard Starting

SCAMP

Possible Cause

No fuel in tank.
Fuel valve off.
Insufficient or excessive priming.
Spark plug lead disconnected.
Spark plug fouled.
Low compression in cylinder (80 PSI min.)
Incorrect air gap between C.D. pack and flywheel.
C.D. pack defective. (Refer to "CD Pack Testing," Pg. 15)
Primer hose disconnected from carburetor or connector.
Primer hose restricted. (Refer to "Primer System Draining," Pg. 63)
Air filter restricted.
Carburetor needle valve incorrectly adjusted.
Throttle valve stuck closed.
Carburetor-to-crankcase screws not tight.
Carburetor-to-crankcase gasket leaking air.
Float chamber screws loose.
Float chamber gasket leaking air.
Restriction in high speed nozzle.
High speed nozzle loose.
Float valve stuck closed.
Restriction in fuel passages (tank, valve, hose, float valve seat).
Float level set too low.
Reed Valves stuck closed or bent open more than .015".
Air leak between crankcase halves.
Intake plug leaking or missing.
Main bearing seals leaking.
Exhaust system restricted.

Zone Start Models

Bail not pulled back against handle.
Incorrect kill switch adjustment (See Pg. 54 Fig. 12)
Kill switch inoperative. (See "Ignition Circuit Switch Troubleshooting," Pg. 19-17).
Brake dragging on flywheel.

Ignition Circuit ("Kill") Switch

(Zone)

The following conditions are indications of Switch misadjustment or failure.

Engine misfires when in self-propelling mode

Adjust Switch (See Pg. 54 Fig. 17).

Engine stops if bail is not held extremely tight against handle

Adjust Switch (See Pg. 54 Fig. 17).

Engine won't start (no spark)

Adjust or replace switch

Primer System Draining

If a mower is tipped back on its handle (as shown below), fuel may run from the carburetor and settle in the lowest point of the primer line when the machine is set upright. If this occurs, remove the primer hose from the carburetor and drain the fuel. Symptoms include rich running and hot starting problems.